

WHAT IS CLAIMED IS:

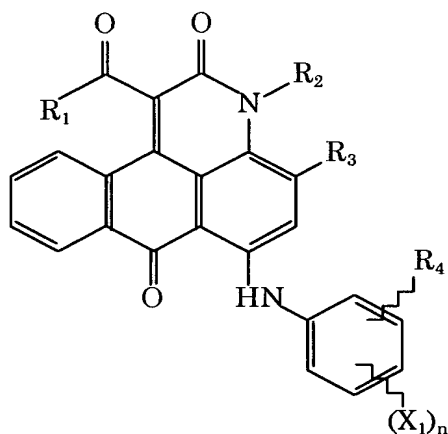
1. An ink comprising:

a first coloring material represented by the following general formula 1;

a second coloring material represented by the following general formula 2; and

an aqueous medium,

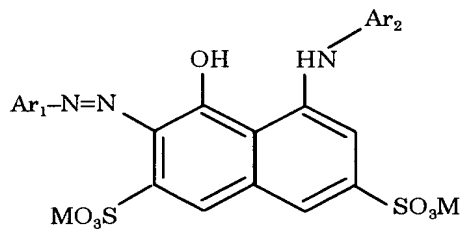
General formula 1



wherein R₁ represents a substituted or unsubstituted alkoxy group, or a substituted or unsubstituted aryl group, R₂ and R₄ represent, independently, a hydrogen atom, or a substituted or unsubstituted alkyl group, R₃ represents a substituent selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, and a halogen atom, X₁

represents a carboxyl group or a salt thereof, or a sulfonic acid group or a salt thereof, and n represents 1 or 2;

General formula 2



wherein Ar₁ represents a substituted or unsubstituted phenyl group, or a substituted or unsubstituted naphthyl group, Ar₂ represents an acetyl group, a benzoyl group, a 1,3,5-triazinyl group, a SO₂-C₆H₅ group, or a SO₂-C₆H₄-CH₃ group, M represents a counter ion to a sulfonic acid group that is selected from the group consisting of a hydrogen atom, an alkali metal, an ammonium, and an organic ammonium.

2. The ink according to Claim 1, further comprising at least one of C.I. Acid Red 52 and C.I. Acid Red 289 as a third coloring material.

3. The ink according to Claim 2, wherein said third coloring material is C.I. Acid Red 289.

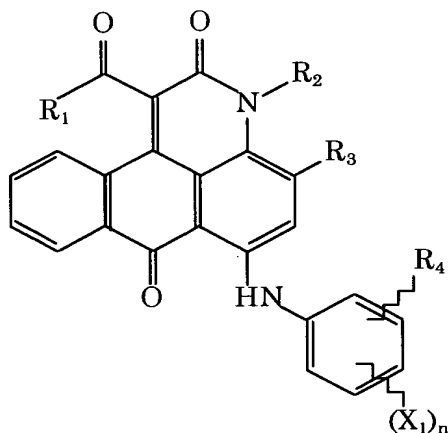
4. An ink comprising:

at least one of C.I. Acid Red 52 and C.I. Acid Red 289;

a coloring material represented by the following
general formula 1; and

an aqueous medium,

General formula 1



wherein R_1 represents a substituted or unsubstituted alkoxy group, or a substituted or unsubstituted aryl group, R_2 and R_4 represent, independently, a hydrogen atom or a substituted or unsubstituted alkyl group, R_3 represents a substituent selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, and a halogen atom, X_1 represents a carboxyl group or a salt thereof, or a sulfonic acid group or a salt thereof, and n represents 1 or 2.

5. The ink according to any one of Claims 1 to 4, wherein one of said coloring materials has at least one

carboxyl group or a salt thereof, and said ink has a pH within a range of 7.0 to 11.0.

6. The ink according to any one of Claims 1 to 4, wherein none of said coloring materials have a carboxyl group or a salt thereof, and said ink has a pH within a range of 4.0 to 11.0.

7. The ink according to any one of Claims 1 to 4, wherein the total content of said coloring materials is within a range of 0.1% to 15.0% by weight of the total weight of the ink.

8. The ink according to any one of Claims 1 to 4, wherein the ink contains water at an amount within a range of 30% to 95% of the total weight of the ink.

9. The ink according to any one of Claims 1 to 4, wherein said ink is used for ink-jet recording.

10. An ink set comprising:

at least one ink selected from the group consisting of yellow ink, cyan ink, and black ink; and

the magenta ink according to any one of Claims 1 to 4.

11. The ink set according to Claim 10, wherein said ink set is used for ink-jet recording.

12. An ink set comprising:

cyan ink, and

the magenta ink according to any one of Claims 1 to 4.

13. The ink set according to Claim 12, wherein said cyan ink comprises a coloring material having a copper phthalocyanine structure.

14. The ink set according to Claim 12, wherein said ink set is used for ink-jet recording.

15. An ink-jet recording method, comprising a step of ejecting said ink according to Claim 9 from an orifice in response to a recording signal.

16. An ink-jet recording method according to Claim 15, wherein said method further comprises a sub-step of ejecting said ink from said orifice by applying thermal energy to said ink.

17. An ink-jet recording method, comprising the steps of:

(i) ejecting said magenta ink according to Claim 9 from an orifice in response to a recording signal; and

(ii) ejecting cyan ink comprising a dye having a copper phthalocyanine structure from an orifice in response to a recording signal.

18. The ink-jet recording method according to Claim 17, wherein at least one of the step (i) and step (ii) comprises a sub-step of ejecting said ink from said orifice by applying thermal energy to said ink.

19. The ink-jet recording method according to Claim 17, wherein step (i) and step (ii) are conducted so that the magenta ink and the cyan ink overlap each other on a recording material.

20. The ink-jet recording method according to Claim 19, wherein at least one of step (i) and step (ii) comprises a sub-step of ejecting said ink from said orifice by applying thermal energy to said ink.

21. A recording unit comprising:

an ink storage portion storing said ink according to Claim 9, and

a head portion for ejecting said ink.

22. A recording unit, comprising:

an ink storage portion storing each of at least one ink selected from the group consisting of yellow ink, cyan ink, and black ink, and magenta ink according to any one of Claims 1 to 4, and

a head portion for ejecting said respective inks.

23. The recording unit according to Claim 22, wherein said head portion comprises a head that ejects said ink by applying thermal energy to said ink.

24. A recording unit comprising:

an ink storage portion storing cyan ink, and magenta ink according to any one of Claims 1 to 4, respectively, and
a head portion for ejecting said respective inks.

25. The recording unit according to Claim 24, wherein said cyan ink comprises a copper phthalocyanine structure.

26. The recording unit according to Claim 24, wherein said head portion comprises a head that ejects said ink by applying thermal energy to said ink.

27. An ink cartridge comprising an ink storage portion

storing said ink according to any one of Claims 1 to 4.

28. An ink cartridge, comprising an ink storage portion storing at least one ink selected from the group consisting of yellow ink, cyan ink, and black ink, and said magenta ink according to any one of Claims 1 to 4.

29. An ink cartridge comprising an ink storage portion storing cyan ink, and magenta ink according to any one of Claims 1 to 4.

30. The ink cartridge according to Claim 29, wherein said cyan ink comprises a coloring material having a copper phthalocyanine structure.

31. An ink-jet recording apparatus comprising a recording unit comprising:

an ink storage portion storing said ink according to Claim 9, and

a head portion for ejecting said ink.

32. An ink-jet recording apparatus according to Claim 31, wherein said head portion ejects said ink by applying thermal energy to said ink.

33. An ink-jet recording apparatus comprising:
a recording head for ejecting said ink according to
Claim 9;
an ink cartridge comprising an ink storage portion
storing said ink; and
an ink supply portion for supplying said ink from said
ink cartridge to said recording head.

34. An ink-jet recording apparatus according to Claim
33, wherein said recording head ejects said ink by applying
thermal energy to said ink.

35. An ink-jet recording apparatus comprising:
at least one ink for ink-jet recording, selected from
the group consisting of yellow ink, cyan ink, and black ink,
a magenta ink according to Claim 9, and
a recording head for ejecting each of said inks.

36. An ink-jet recording apparatus according to Claim
35, wherein said recording head ejects said inks by applying
thermal energy to said inks.

37. An ink-jet recording apparatus according to Claim
35, wherein said cyan ink comprises a dye having a
phthalocyanine structure.

38. An ink-jet recording apparatus according to Claim 37, wherein said recording head ejects said inks by applying thermal energy to said inks.

39. An ink-jet recording apparatus comprising:
cyan ink,
an ink having a magenta color according to Claim 9, and
a recording head for ejecting each of said inks.

40. An ink-jet recording apparatus according to Claim 39, wherein said recording head ejects said inks by applying thermal energy to said inks.

41. An ink-jet recording apparatus according to Claim 39, wherein said cyan ink comprises a dye having a phthalocyanine structure.

42. An ink-jet recording apparatus according to Claim 41, wherein said recording head ejects said inks by applying thermal energy to said inks.